5. Transportation Data

5.1 Existing Conditions

The Northwest Valley is served by a partial grid roadway system that connects the major activity centers with a hierarchy of roadways ranging from local streets in neighborhoods to limited access freeways for interregional travel (see Figure 13). The concept of the street network's grid roadway system is a series of north/south and east/west arterial roadways, which provide access to adjacent land uses, generally consistent traffic signal control, and a significant level of regional movement.

Though not complete, much of the existing street system layout is either in place or planned according to a grid concept. The main exception to the grid layout is Grand Avenue, one of the area's original roadways, which runs northwest/southeast through the Valley. Grand Avenue is State Route 60 and the major surface roadway in the Northwest Valley. It provides a high level of access to area uses that have evolved along the roadway, but it also disrupts the grid traffic pattern. Among the impacts of Grand Avenue are the creation of complex six-legged intersections and truncation of local streets that reroute local traffic onto the arterial system for even very short trips.

Some additional characteristics that define the Northwest Valley Highway Network are shown in Table 11. These will be used as a basis for further analysis along with the anticipated land use changes to help establish network sizing goals for the area.

Figure 13: 2001 Highway Network

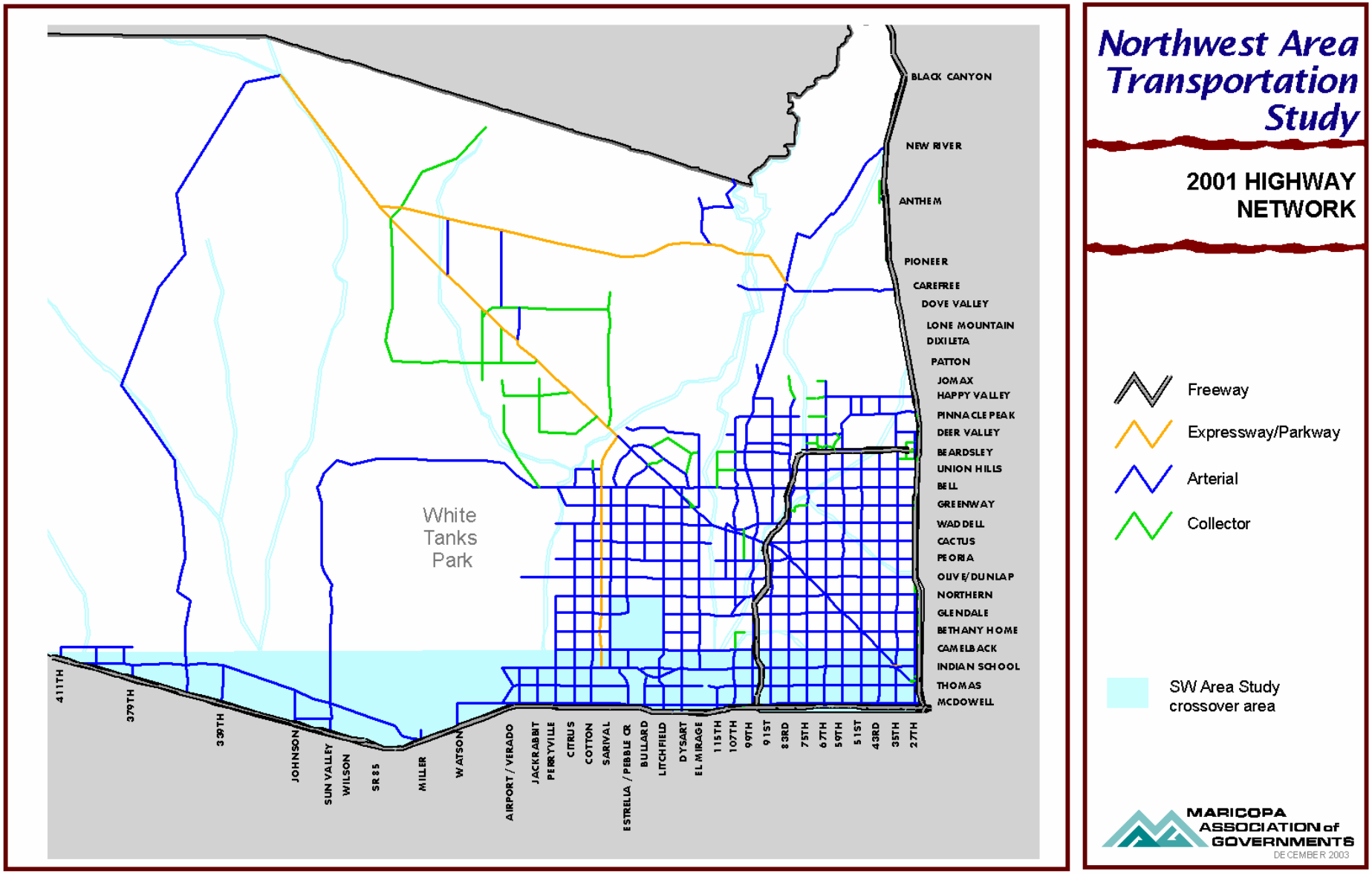


Table 11: 2001 Centerline Lane Miles and Lane Miles by Facility Type

	Jurisdiction		MPA	
PLACE	Centerline Mi	Lane Mi	Centerline Mi	Lane Mi
AVONDALE	14	58	22	86
BUCKEYE	31	108	102	331
EL MIRAGE	17	44	17	44
GLENDALE	115	484	183	648
GOODYEAR	41	108	55	148
LITCHFIELD PARK	5	17	7	26
PEORIA	105	349	115	379
PHOENIX	193	854	253	1,104
SURPRISE	69	188	173	450
TOLLESON	1	5	4	27
WICKENBURG	4	14	14	58
YOUNGTOWN	0	1	1	4
MARIC CO	357	987	89	308
TOTAL	**952**	**3,218**	**1,034**	**3,614**

	STUDY AREA	
Facility Type	Centerline Mi	Lane Mi
Freeways	131	648
Expressways/Parkways	70	197
Collectors	138	294
Arterials	695	2,475
TOTAL	**1,034**	**3,614**

5.2 Discontinuities in the Street Network

A major challenge to providing reliable roadway transportation is the discontinuity and irregularity of portions of the arterial grid. Section line roadways are often interrupted by major developments or other installations that were in place long before the growth of the past 20 years. Where this occurs, parallel arterials are forced to carry higher loads and distort the balance within the network. This results in congestion and impacts to access and adjacent land uses. Table 12 lists significant manmade land uses within the Northwest Valley that cause interruptions to a consistent roadway network[2].

Table 12: Roadways Disrupted by Manmade Land Uses

Use	Roadway
Luke Air Force Base	Bullard Avenue Glendale Avenue Litchfield Road (occasionally)
Glendale Municipal Airport	Bethany Home Road 111th Avenue 107th Avenue
Sun City	Thunderbird Road Cactus Road 111th Avenue
Sun City West	Sunrise Boulevard Reems Road Litchfield Road Dysart Road
Parkland or Canals	Greenway Road 111th Avenue 115th Avenue

Natural land formations also disrupt the street network's grid. Many river crossings become impassable during heavy flow periods, and in some locations, alternative crossings are not

[2] Tables 12 and 13 do not include breaks in roadways that cannot be definitively attributed to specific land uses or natural features.

available or are so far away that they are not feasible. This problem can be remedied by adding the necessary bridges, though there is a question about where they should placed.

Other features (e.g., mountains, parks) are not as readily mitigated where roadways are viewed as incompatible with the vision for those areas. Table 13 presents significant natural conditions within the Northwest Valley that cause interruptions to a consistent roadway network.

Table 13: Roadways Disrupted by Natural Features

Feature	Roadway	
Agua Fria River	Happy Valley Road Beardsley Road Waddell Road Bethany Home Road	Thomas Road Peoria Avenue Thunderbird Road Deer Valley Drive
New River	Cactus Road Pinnacle Park Road	Beardsley Road Jomax Road
Skunk Creek	Greenway Road	
Trilby Wash and Basin	Dove Valley Road Beardsley Road	Union Hills Road Happy Trails Road
White Tank Mountains	Greenway Road Cactus Road Olive Avenue Glendale Avenue Camelback Road Thomas Road 247th Avenue	Waddell Road Peoria Avenue Northern Avenue Bethany Home Road Indian School Road McDowell Road Apache Road
Hieroglyphic Mountains	Dove Valley Road	

5.3 Variable Width Roadways

As the primary regional transportation network, the arterial roadway system crosses municipal boundaries and is therefore subject to the planning efforts of multiple localities. Municipal strategies and the variable pace of development have resulted in a network of shifting capacities and a "scalloped streets" challenge. Depending on arterial and location, roadways can increase and decrease in capacity over relatively short distances. This sends confusing messages to drivers about the intended use of each roadway as driving practices vary with roadway character. The scalloped streets problem creates congestion where street cross-sections narrow. They also create a burden to other streets that compensate for substandard capacities in narrow or unfinished sections. In practical terms, varying roadway capacities result in reduced levels of service and decreased effectiveness for vehicular flows.

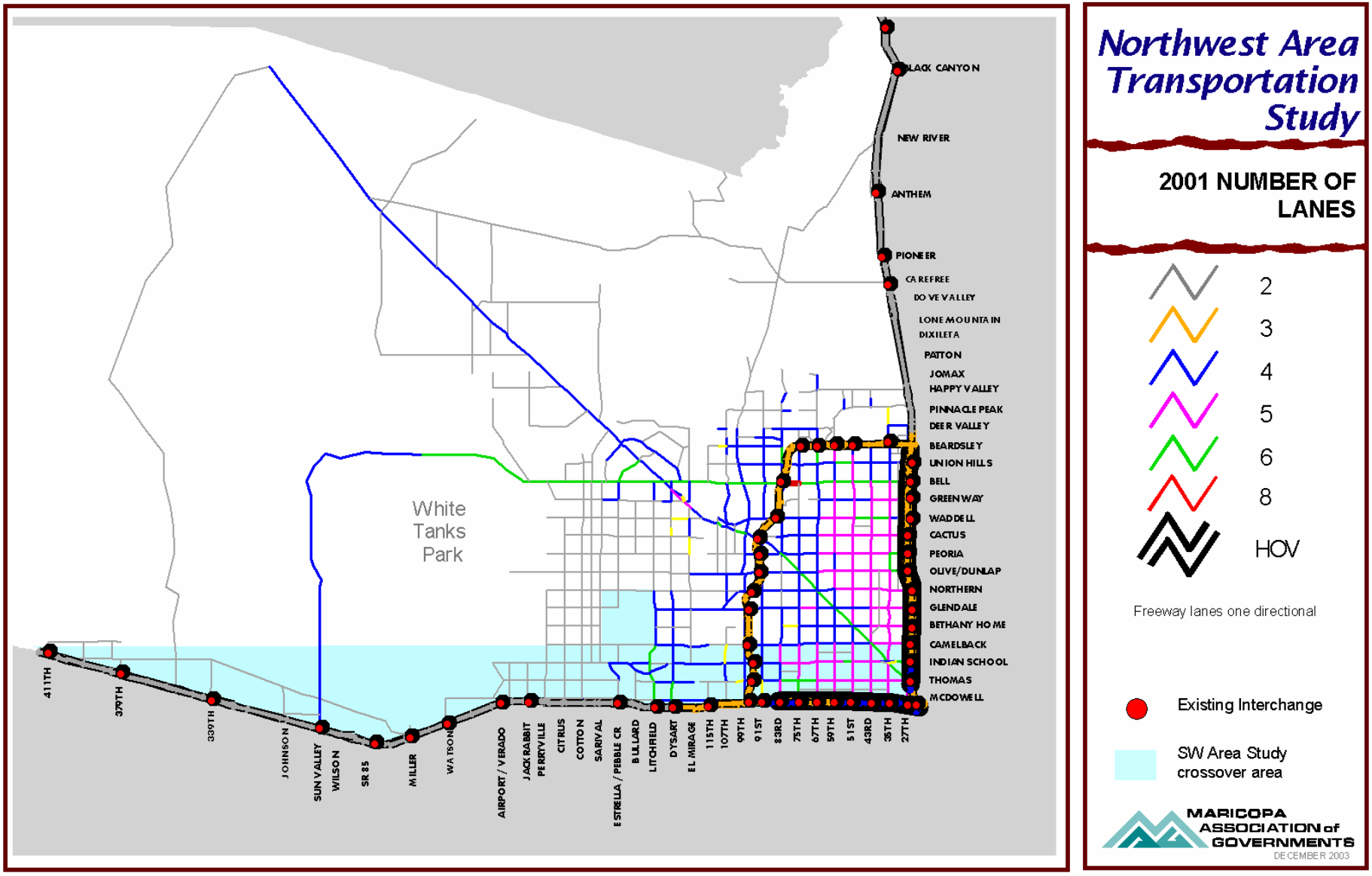
Table 14 presents existing roadways within the Northwest Valley with varying numbers of lanes, as indicated in current conditions or in the General Plan.

Table 14: Roadways with Varying Numbers of Lanes[3]

Roadway	Direction	Numbers of Lanes
59th Avenue	northbound	2-3
67th Avenue	north- and southbound	2-3
75th Avenue	north- and southbound	1-3
83rd Avenue	north- and southbound	1-3
91st Avenue	northbound	1-2
107th Avenue	north- and southbound	1-2
El Mirage Road	northbound	1-2
Dysart Road	north- and southbound	1-2
Union Hills Drive	east- and westbound	2-3
Greenway Road	east- and westbound	1-2
Northern Avenue	eastbound	2-3
Glendale Avenue	westbound	2-3

[3] Table 14 does not include roadways that progressively widen and maintain their increased capacity; it only includes roadways that widen and narrow within relatively short distances as a result of their construction timing or disparities in the requirements imposed on adjacent properties.

Figure 14: 2001 Number of Lanes



Variable roadway conditions also result from constructing roadway segments at different times and for different purposes. Short-term planning for a low volume connector road through undeveloped land may be satisfactory to meet short term connectivity needs, but that same cross-section may be inadequate to meet demand based on future development. The result is usually segments with insufficient long-term capacity, leading to reduced efficiency for the entire roadway network.

Planning for vehicular volumes based upon regional traffic demand will be required in the future to reduce or eliminate these inefficiencies. As part of this task, the existing and planned roadway network will be modeled. Based upon model results, the extent of the constraints described above will be determined. Where necessary, physical and policy recommendations will be provided to help reduce the impacts upon the roadway and transportation network.

5.4 Capacity Limitations

Based on current volumes, the locations that experience recurring congestion are concentrated around the Grand Avenue Corridor, and I-17. During the peak periods of the day, they can reach level-of-service (LOS) E or F (see discussion of LOS in section 6) causing serious delays. The complexity of some intersections and the "shortcut" effect of the diagonal alignment of Grand Avenue through the Northwest Valley and the heavy concentration of land uses along the I-17 Corridor contribute to these being the most congested routes in the area. As a result, many of the intersecting arterials also suffer from over capacity conditions as they accept diverted traffic or feed the key roadways. In general, however, congestion is not widespread as yet in the Northwest Valley, though growth projections would indicate major improvements will be needed to maintain adequate traffic flow as the area develops.

One of the primary concerns is the provision of sufficient capacity in the highway network to accommodate the expected growth. Loop 303, for example, though not yet funded, is being fully relied on by development for future transportation needs. ADOT expects that I-10 and I-17 will require substantially more capacity within the next 20 years to handle planned growth. Similar issues arise with key arterials such as Bell Road. Part of providing the needed capacity is to integrate the transportation plans of the growing communities so that they work in a cohesive fashion. This may require review of timing and funding to ensure that unnecessary congestion "hotspots" are not created as growth occurs.

5.5 Existing Traffic Volumes

Traffic count data are essential to the management of the local street system. This is true for local needs as well as regional objectives. Traffic volumes are not only an indication of demand, but can also show developing trouble spots and help shape strategic plans for improvements. In the Northwest Valley, not all communities collect traffic volumes on a regular basis. Phoenix, Glendale and Peoria have well-established data gathering practices, but other cities are still developing their controls. For those communities, the latest information is obtained from MAG, the County or ADOT, but is not collected as frequently as required to manage a growing system effectively.

Subject to the stated limitations, Figure 15 shows the latest traffic volumes in the Northwest Valley.

Figure 15: 2001 Traffic Volume Map

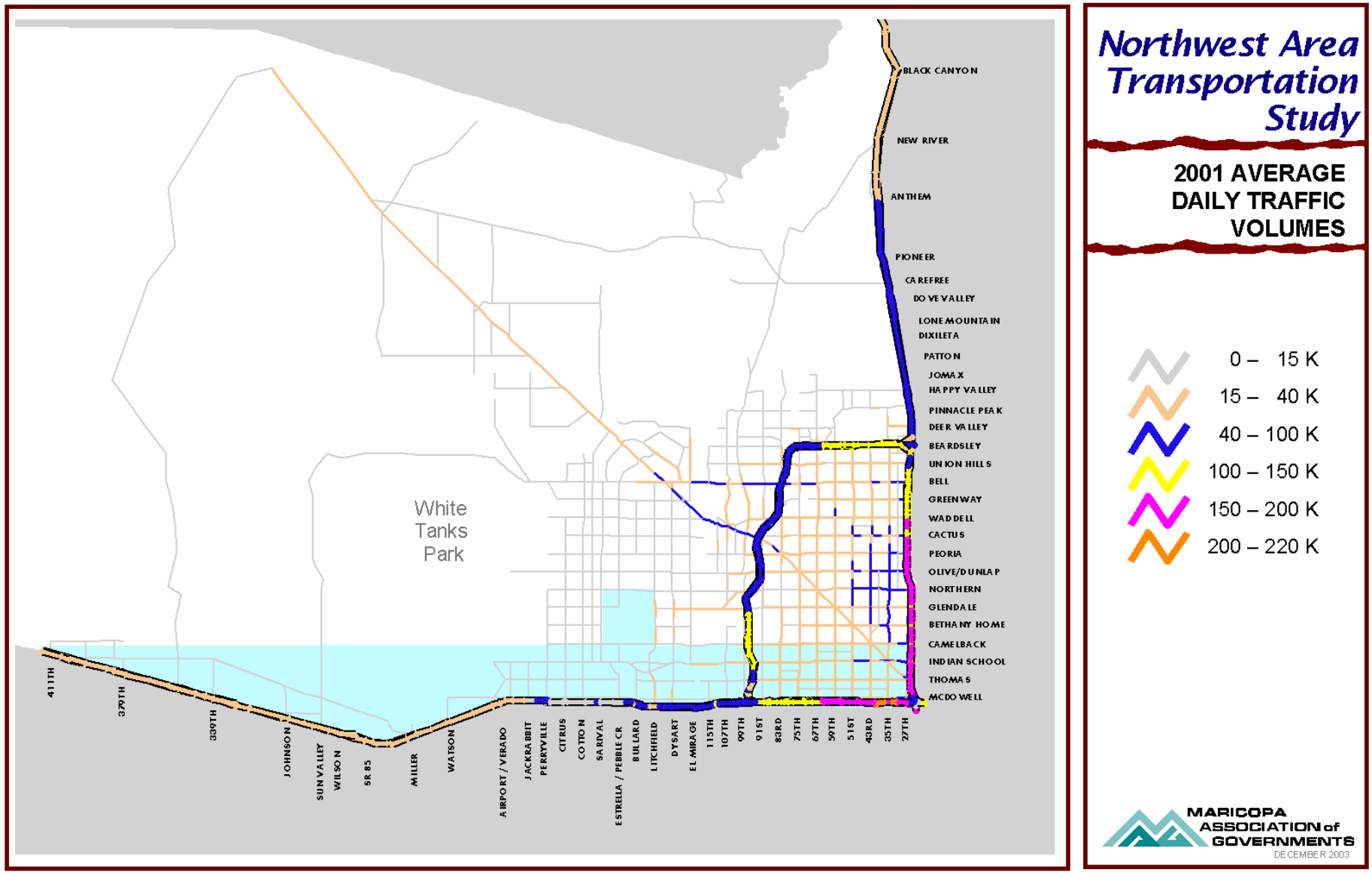
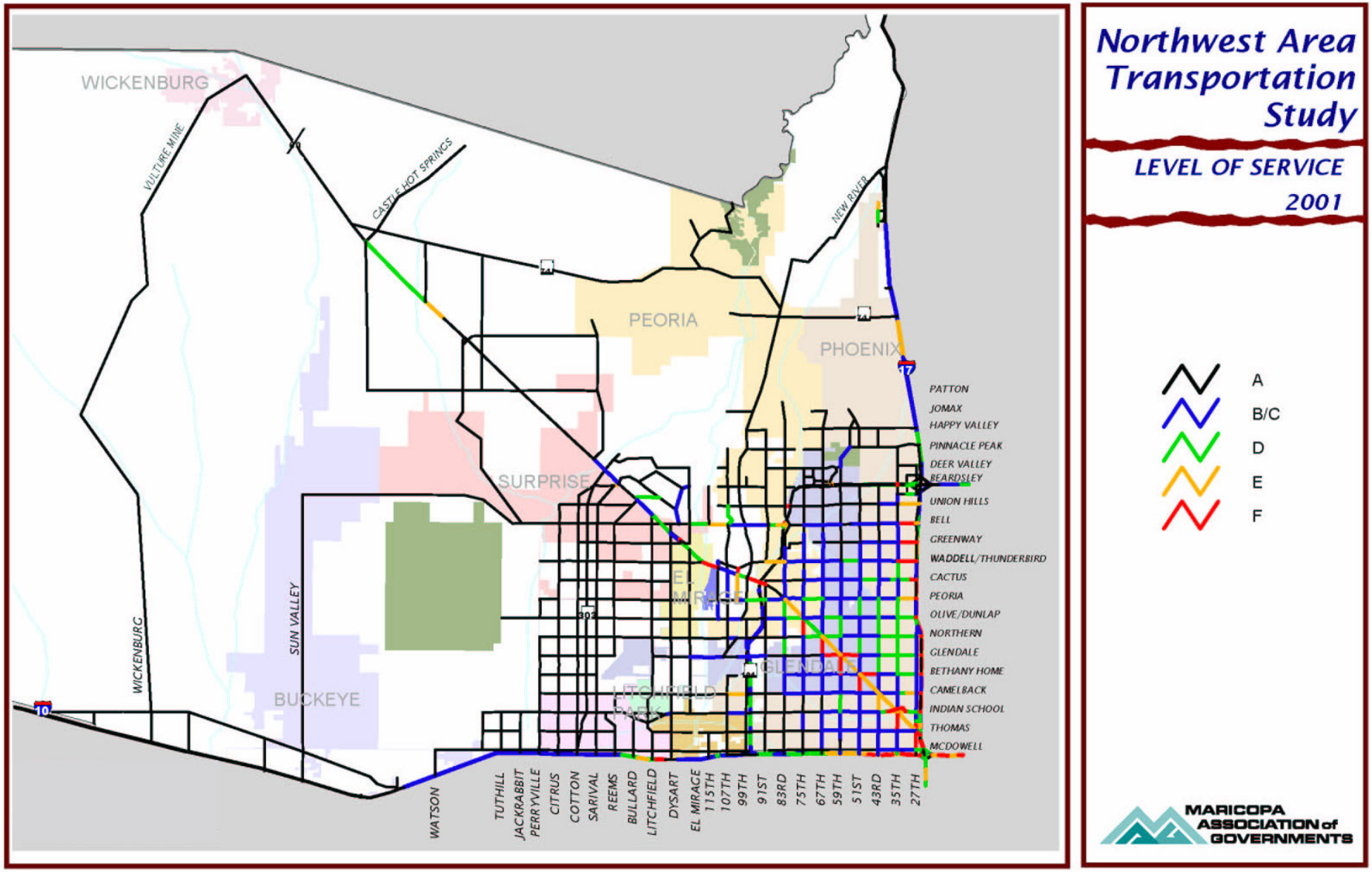


Figure 16: 2001 Average Daily LOS



5.6 Congestion

Based on current volumes, the locations that experience recurring congestion are concentrated around the Grand Avenue Corridor, and I-17. During the peak periods of the day, they can reach LOS E or F causing serious delays. The complexity of some intersections and the "shortcut" effect of the diagonal alignment of Grand Avenue through the Northwest Valley and the heavy concentration of land uses along the I-17 Corridor contribute to these being the most congested routes in the area. As a result, many of the intersecting arterials also suffer from over capacity conditions as they accept diverted traffic or feed the key roadways. In general, however, congestion is not widespread as yet in the Northwest Valley, though growth projections would indicate major improvements will be needed to maintain adequate traffic flow as the area develops.

5.7 Traffic Signal/Intelligent Transportation Systems

The traffic signal systems and coordination in the Northwest Valley are operated independently by each city. With the exception of Phoenix, there are no centralized signal control systems in the area. However, Glendale, Peoria and Surprise are planning to implement such systems in the near future. This will lead to greater opportunities for area wide implementation of signal coordination in the near future. Consistent with the MAG ITS Strategic Plan, Phoenix, Peoria, Surprise, and Glendale are part of the regional ITS program that encourages signal coordination across jurisdictional boundaries. These agencies will soon have the ability to provide traffic-related information to the regional traffic operations center at ADOT that could be shared with other neighboring cities and the State for incident identification/response and the prospect of interjurisdictional coordination of signals.

Phoenix operates a Series-2000 central controller that handles most of the approximately 800 signals within its corporate limits. Interconnection between signals is via a combination of twisted pair cable and telephone lines, largely based on the date of the installation, but it offers a level of control that exceeds what is available in the rest of the area. Most of the intersection controllers are compatible (or soon will be) with present and future objectives of the Phoenix signal coordination and priority plans. Additional improvements will be made to accommodate light rail transit requirements when LRT begins service in 2006.

Glendale has about 150 traffic signals and an extensive plan for ITS improvements. Trunkline conduit runs have been identified (some are partially in place) that will support the overall plan for signal coordination as well as many other program elements such as closed circuit television cameras (CCTV) at key locations. Glendale currently uses a Transit 1810EL control system with PEAK intersection controllers, but plans to upgrade the central controller to an ICONS system in the near future. The new system will expand the city's capabilities to allow transit priority treatments and a higher level of traffic signal coordination. It will be co-located with the city's emergency services to make the system data available to police and fire departments and allow better responses to emergency calls. There has been little interaction to date with adjacent communities in sharing system capabilities. Once the necessary conduit is installed Glendale will share their signal control data with ADOT and other agencies as called for in the regional ITS Strategic Plan.

Peoria has a long-term plan to install fiber-optic cable and the necessary equipment to manage and coordinate signals. For now, Peoria has coordination at a few locations, which have been developed with ADOT and Maricopa County, and is preparing plans to institute time-based coordination along additional critical arterials. Peoria has had preliminary conversations with the City of Phoenix about a cooperative signal control arrangement using Phoenix equipment, but no plans or timetable for such action are defined.

Surprise, Buckeye, El Mirage and Youngtown and Wickenburg do not have central control systems or coordination on local streets yet, but could avail themselves of opportunities to connect to a neighboring system in Phoenix, Glendale or Maricopa County if capacity is available. This would allow the signals to be managed as part of a larger arterial network and offer the possibility of interjurisdictional signal coordination. This type of arrangement requires careful consideration of liability and operating practices by both signatory entities, but can serve as a good temporary operation while plans for permanent systems are developed.

5.8 Future Highway System Characteristics

Based on the anticipated changes in the General Plans of the NWATS communities, the highway system will grow substantially over the next 20 or so years (See Figure 17).

While some improvements are to be made in the already urbanized area (e.g., Glendale and Phoenix programs), most of the changes can be expected to take place in the outlying growth areas of each city. Peoria, Surprise and Buckeye in particular have ambitious plans to expand roadways into new areas as development activity moves north and west.

One of the primary concerns is the provision of sufficient capacity in the highway network to accommodate the expected growth. Loop 303, for example, though not yet funded, is being fully relied on by development for future transportation needs. ADOT expects that I-10 and I-17 will require substantially more capacity within the next 20 years to handle planned growth. Similar issues arise with key arterials such as Bell Road. Part of providing the needed capacity is to integrate the transportation plans of the growing communities so that they work in a cohesive fashion. This may require review of timing and funding to ensure that unnecessary congestion “hotspots” are not created as growth occurs.

Table 15 shows the proposed number of lanes planned for major facilities in the Northwest Valley based on the General Plans of the individual communities. These plans form the foundation of the future roadway network. When combined with future land use changes in the travel demand model, they will provide an indication of where the congestion points are likely to occur as the area evolves. As indicated, most new roadways are assumed to be built with four lanes. This also occurs in areas that are planned for substantial growth, well beyond the ability of a four-lane road to handle. As development proceeds in these areas, it will be essential to devise lane configurations that support the proposed land uses. Furthermore, they must be reflected in the stipulations for such projects to avoid built-in deficiencies in city plans.

There is a large increase in available highway capacity, but it only keeps pace with population and employment over the next 20 – 25 years. The rate of increase in highway capacity slows after that, while population and employment continue to grow. Many collectors in 2000 are forecast to become

arterials by 2020 to offset the increase in demand in the area. At the same time, there is only a modest change in freeway lanes miles, which ADOT has identified as critical to maintaining traffic flow in the Northwest Valley.

Table 15: 2020 Centerline Lane Miles and Lane Miles by Facility Type

	Jurisdiction		MPA	
PLACE	Centerline Mi	Lane Mi	Centerline Mi	Lane Mi
AVONDALE	19	86	25	117
BUCKEYE	142	539	406	1,569
EL MIRAGE	21	102	21	102
GLENDALE	129	609	202	923
GOODYEAR	47	197	60	261
LITCHFIELD PARK	5	25	7	34
PEORIA	165	703	195	854
PHOENIX	271	1,251	325	1,614
SURPRISE	88	381	258	1,080
TOLLESON	1	6	4	24
WICKENBURG	4	14	14	58
YOUNGTOWN	0	1	1	6
MARIC CO	706	2,629	97	417
TOTAL	**1,598**	**6,543**	**1,614**	**7,060**

			STUDY AREA	
Facility Type			Centerline Mi	Lane Mi
Freeways			136	1,064
Expressways/Parkways			82	317
Collectors			88	242
Arterials			1,308	5,437
TOTAL			**1,614**	**7,060**

Figure 17: Future Base Roadway Network

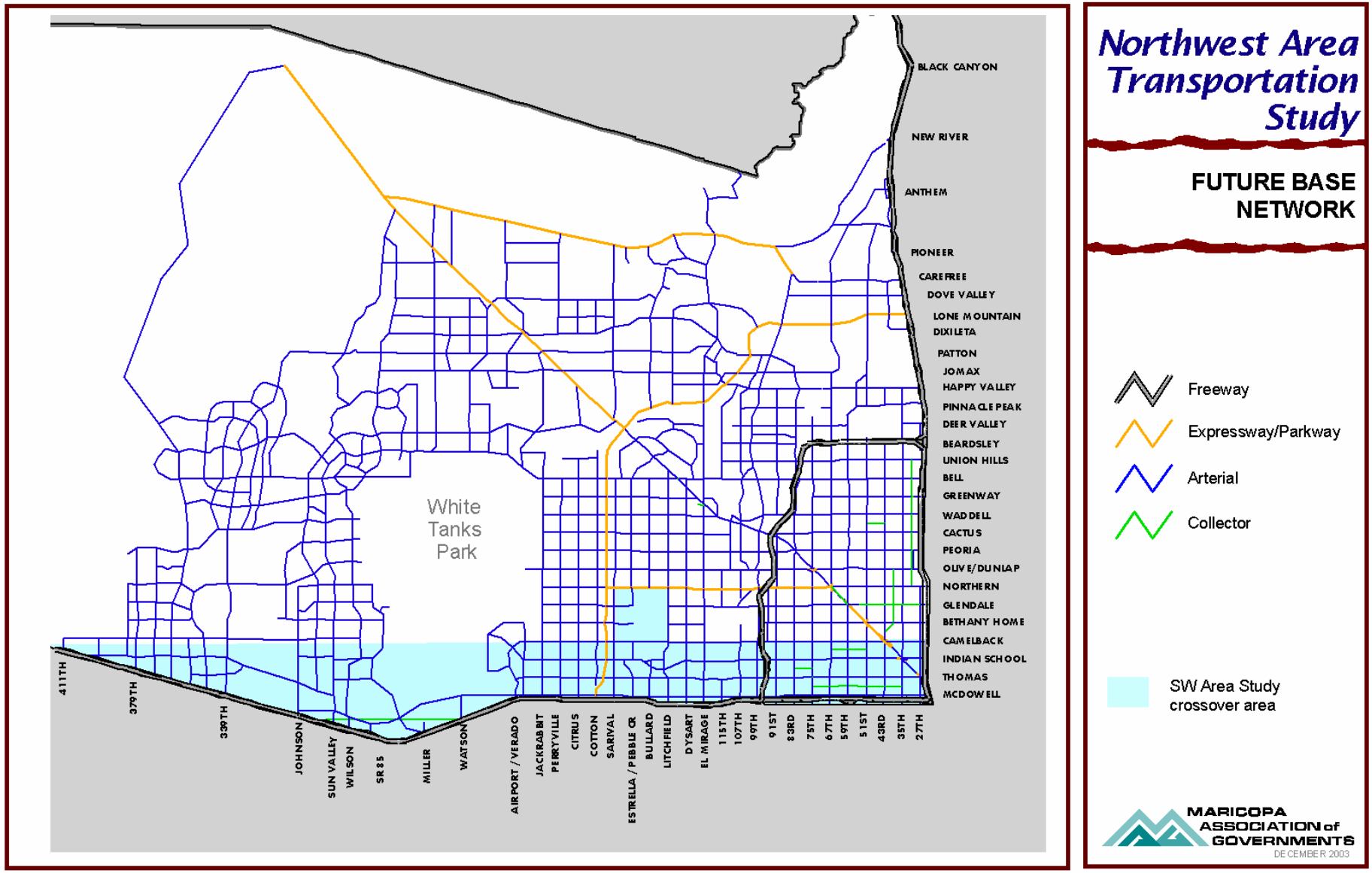
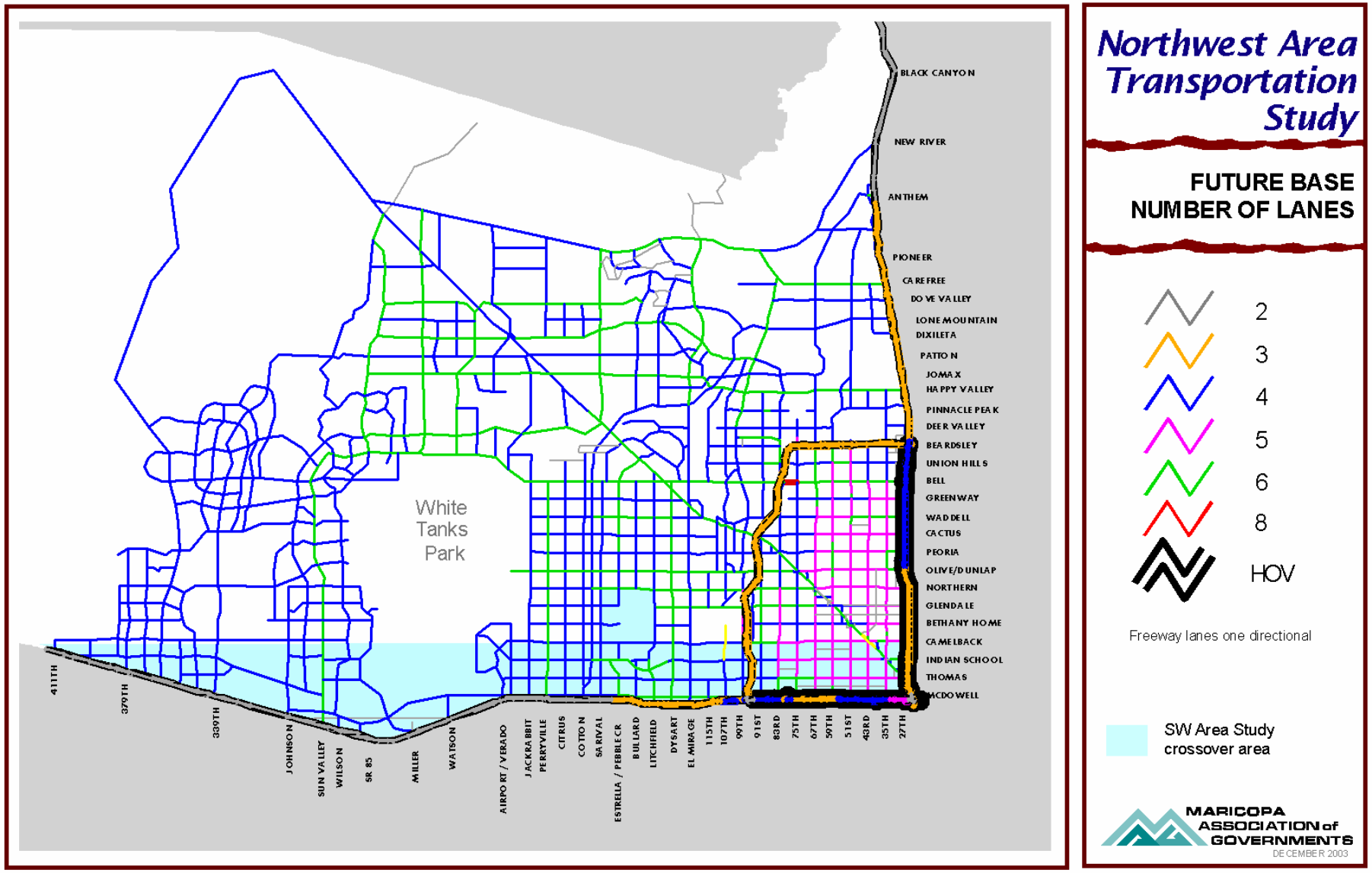


Figure 18: Future Base Number of Lanes



5.9 Transit System

5.9.1 System Characteristics

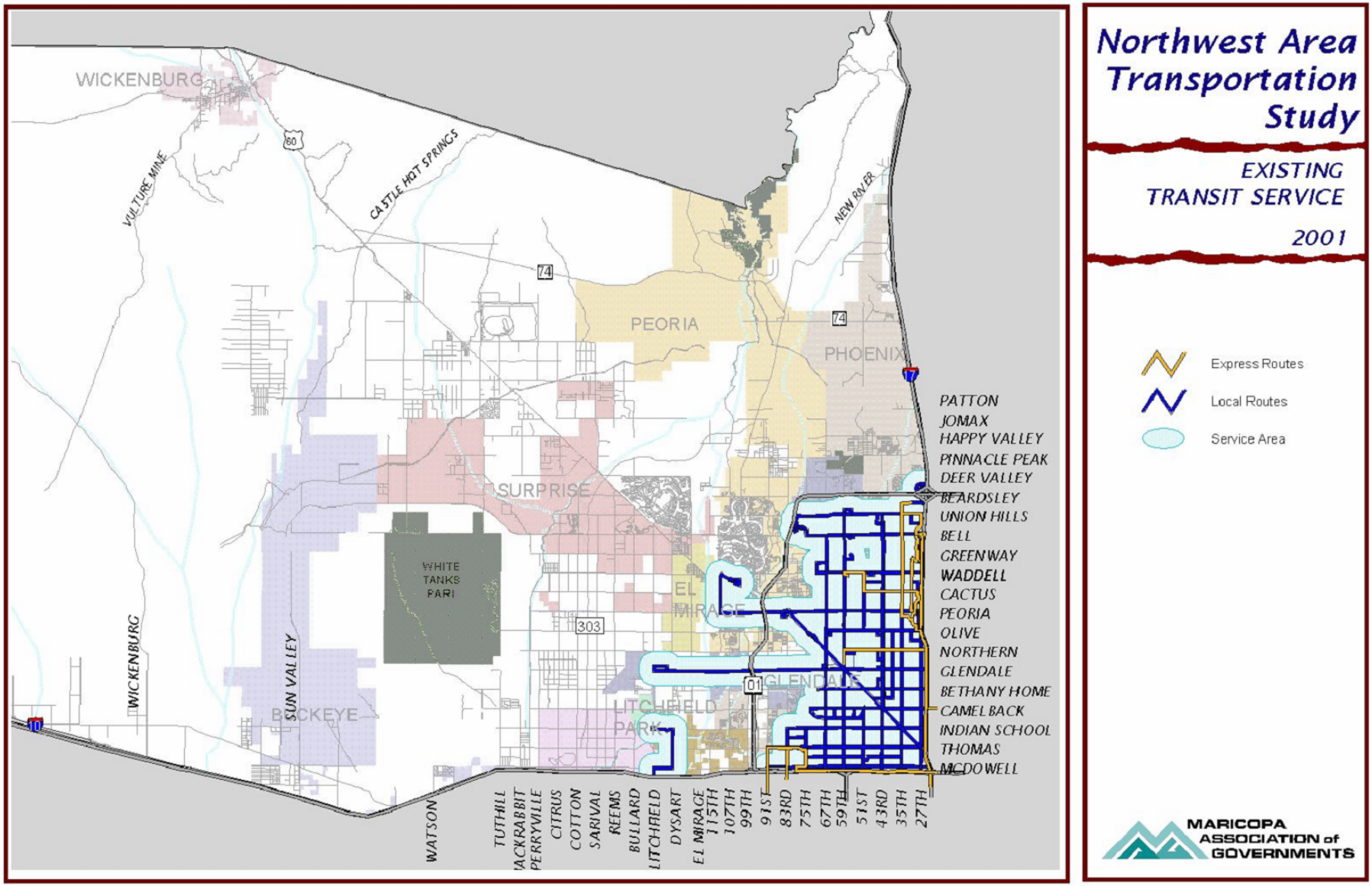
Historically, land throughout the Northwest Valley has developed as low-density residential, without much regional coordination of circulation plans. Transportation improvements have followed this land use pattern, with roadways built to provide access between existing communities and newly developed parcels. The correlation of low-density, roadway-focused transportation has resulted in traditional suburban growth throughout the Northwest Valley, which limits opportunities for transit to offer a viable alternative to automobile-dependent households. Despite policies that support a multimodal approach, without minimum corridor level population or employment densities and coordinated land use planning across municipal boundaries, transit has not been a competitive transportation option in the Northwest Valley.

Phoenix has a well-developed transit program with a growing bus system and a light rail transit line under development. Glendale has just begun to improve its own services with the recently approved sales tax and will look at light rail in the future. El Mirage, Peoria, and Surprise have little transit available, but are beginning to identify their own opportunities to expand service in dial-a-ride and support further fixed route service into their communities. Wickenburg has indicated interest in a local circulator type of service as well as the need for better line haul connections such as commuter rail to the Phoenix area. In summary, despite the limitations of existing land use patterns, there is a growing interest in providing alternatives to a “car-only” transportation system.

There are currently only two park-and-ride lots available for Northwest Valley bus or carpool riders. As an aid to transit and ridesharing, the MAG Park and Ride Study identified eight additional park-and-ride locations in the Northwest Valley. They vary in size from fewer than 300 to 800 spaces. They primarily serve opportunities along the freeway system, but could provide access to a high capacity transit system or even local fixed route service if designed with those technologies in mind. Individual cities have also begun to define locations for possible park-and-rides that would enhance their own access to transit systems over time.

Still, there is limited transit service available in the Northwest Valley (See Figure 19). RPTA offers only a few lines to the western boundaries of Glendale and Phoenix. Generally, they turn around at the boundary requiring users from farther west (e.g., Surprise, El Mirage) to travel to the eastern city limit to avail themselves of the bus system. Extensions to the west will require financial contributions from the communities benefiting from the service. Those conversations have been underway in the cities of Peoria and Surprise, but the limited funding available has been a significant impediment to the establishment of consistent ongoing service. Instead, Peoria and Surprise have decided to build toward a better transit plan by focusing efforts on improving paratransit services and moving toward fixed route service as funding becomes available. Much of the success of this approach hinges on the availability of regional funding for transit.

Figure 19: Existing Transit System Map



5.9.2 Long Term Plan for High Capacity Transit Service

The study of high capacity transit is currently underway to identify where such service might offer the potential of improved mobility in the region. Commuter rail is of interest in many of the communities that abut the BNSF Railroad right-of-way because the corridor is already well defined. Even outlying communities such as Wickenburg view commuter rail as an opportunity for their residents to access urban core destinations in the more established areas of the Valley. BNSF has also shown a willingness to discuss the prospects of passenger service as they consider ways to make their own operations more efficient through possible relocations of yards and services.

Light rail transit (LRT) is under development in Phoenix and will be evaluated soon in Glendale. While this technology has limited application at this stage in the evolution of the Northwest area, the first vestiges of the system could be expanded to offer significant additional capacity to other communities at a later time. The LRT could also help to shape future growth by helping to create basic residential and/or employment densities where they would otherwise not likely develop.

Bus rapid transit (BRT) is another technology that is being developed in the City of Phoenix, but which may offer opportunities throughout the Northwest Valley (and the entire region) for line haul transit service. BRT in the Northwest Valley could take advantage of the existing and planned freeway system or even major arterials and attract riders from even low-density developments if designed with the full complement of the features being made available in other cities such as Los Angeles and Pittsburgh.

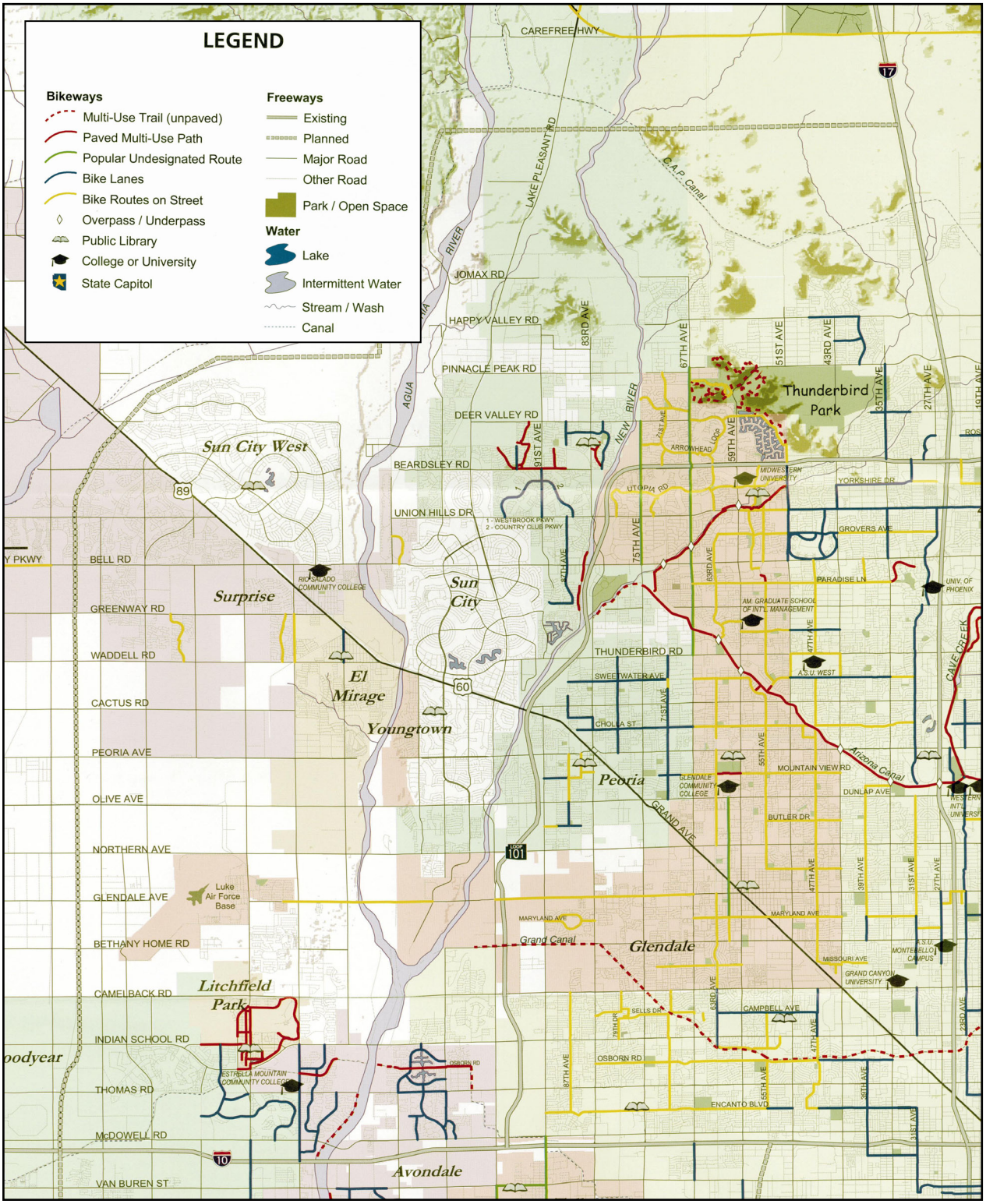
5.10 Bicycle/Pedestrian System

5.10.1 System Characteristics

While most communities within the Northwest Valley have included bicycle and pedestrian elements within their master plans, most efforts related to these elements are focused around recreation or as an element of roadway development. There is a general reluctance to view bicycles, for example, as offering mobility the way a car does. In addition to the local climate, the character of development with generally long travel distances discourages reliance on bicycles as a primary mode.

The complexity of the issue of integrating a system of bicycle paths and pedestrian amenities across jurisdictional lines rises as discontinuities multiply. The same factors, which limit the effectiveness of the arterial grid (discussed above), challenge a feasible regional bike lane or bike route plan to aid commuters. In the absence of a common understanding of how to implement the plan, it will remain a recreational amenity.

Figure 20: Existing Bicycle and Multi-Use Facilities



Source: Bikeways Metropolitan Phoenix Area, Maricopa Association of Governments, 2003

5.11 Long Term Plan for Non-Motorized Elements

5.11.1 Bicycle Plan

Regional bicycle system components that span significant lengths of the Northwest Valley have been generally confined to readily identifiable, defined rights-of-way such as riverbeds, utility easements, railroad corridors, parks and some roadways. The MAG Bicycle Plan vision extends as far west as Vulture Mine Road and north to Lake Pleasant as part of a regional Northwest Valley bicycle system. The New River and Agua Fria River Corridors are among the most visible elements of the West Valley Rivers Master Plan and contain major bicycle components. Beyond such identified corridors, most of the future bicycle system is oriented toward new development areas, many of which are to the northwest of the current urban core.

Glendale, Peoria, Phoenix and Surprise have their own plans for bicycle system development. El Mirage has a longstanding policy, but no specific plan. Maricopa County has identified an extensive countywide system in their long-range plan. Most of the city systems are located within roadway rights-of-way in existing areas and expand to include off-road trails and special facilities as they move toward developing areas. While many of these are designed to connect city activity centers, some offer regional benefit in that they provide a local linkage between regional trails (e.g., the rivers) and major activity centers. The county's plan emphasizes continuity more than connectivity as it attempts to link regions beyond activity centers.

5.11.2 Pedestrian Plan

The majority of the pedestrian plan elements in the Northwest Valley are implemented as part of the expansion of the highway system. As roadways are constructed, sidewalks are included to afford pedestrians circulation between key destinations and access to various land uses. Specifically designed pedestrian facilities are primarily part of multipurpose trails systems and usually share space with bicyclists and other path users. On the other hand, there is a growing recognition that the quality of the pedestrian environment is a primary consideration in an individual's choice to walk and even to use transit. The MAG Pedestrian Guidelines provide for an accommodation of pedestrians in a way that makes the use of sidewalks and walkways a better complement to other forms of transportation.

5.11.3 Golf Carts and Other Modes

There is little use of golf carts on public streets except in the Sun City communities where their use inside the community boundaries is prevalent. Within the Sun Cities, special provisions to safeguard golf cart use have been made in the street right-of-way through specialized striping and signage. There are no organized systems and none is currently planned outside the Sun Cities. Recent announcements regarding a possible new age-restricted community in Buckeye could call for application of the Sun City criteria for golf cart usage.

5.12 Goods Movement/ Intermodal

The section of I-10 leading west from Central Phoenix is home to multiple distribution centers. These operations rely prominently on trucks for collection and distribution of goods throughout the Valley and to other regions in the Southwest and the Nation. While there is no designated truck route system in most of the Northwest Valley, most truck traffic uses the existing freeway system (i.e., I-10, I-17, Loop 101) or Grand Avenue. Still, there is measurable growth in the use of existing Loop

303 even before it is constructed to its ultimate standards. This raises the prospect of how to best serve interregional truck traffic in the future given the concerns about truck operations along Loop 303 in some areas.

The Burlington Northern-Santa Fe Railroad (BNSF) mainline is adjacent and parallel to Grand Avenue in the Northwest Valley. The line carries about eight trains each day and serves a number of longstanding customers of the railroad along Grand Avenue. The Grand Avenue route is critical to BNSF operations, but the railroad is willing to discuss freight schedule adjustments to allow a broader use of the corridor (e.g., commuter rail) as well as expedite freight activities through the area. This could help reduce the demand for the use of the track in freight operation during peak commuter periods, and the conflict with passenger service. It would also simplify discussions about sharing. Some of the key facilities such as the automobile loading/unloading yard near Thunderbird Road in El Mirage would need to be considered in plans for a relocation of mainline services.

5.13 Safety

On average, Arizona has a higher crash rate than the nation as a whole. In 2002, the U.S nationwide accident rate was 1.51 per 100 million vehicle miles of travel. Arizona's rate was 2.09 for the same period. In 2002, there were a total of 9,543 crashes in the Northwest Valley, or 11% of the total of 87,606 crashes for the County. This compares to a population in the Northwest Valley that was 28% of the total for the County in 2000. One possible explanation for the lower number of accidents in the Northwest Valley compared to the County is that there is less overall travel per resident in the Northwest Valley relative to Phoenix and the rest of the region. The construction of additional freeway mileage and the expansion of ITS improvements should help minimize the number of crashes in the Northwest Valley in the future, as some of the traffic that otherwise would travel on arterials will move to the new and improved freeways that provide relatively higher levels of safety. Based on the 2000 ADOT Motor Vehicle Crash Facts Report, Maricopa County had 86,688 reported crashes in the year 2000. Of those, 394 crashes included fatalities, 31,837 resulted in injuries and 54,457 were reported as property damage only (PDO).

Jurisdictions in the Northwest Valley reported the figures shown in Table 16.

Table 16: Accident Summary by Jurisdiction[4]

City/Town	Total	Fatal	Injury	PDO
Buckeye	6	2	1	3
El Mirage	114	3	47	64
Glendale	4997	27	1702	3268
Peoria	1554	1	517	1036
Surprise	244	3	90	151
Wickenburg	97	2	21	74
Avondale	473	0	128	345
Goodyear	249	4	89	156
Litchfield Park	-	-	-	-
Totals	7734	42	2595	5097

The City of Glendale maintains a list of high accident locations to monitor trends at intersections or segments that require special attention. Many of the critical locations have been identified for improvements in the Glendale Transportation Plan approved by voters in November 2001. Other communities rely on compiled information from ADOT to address their own needs, but face limitations regarding corrective actions without additional funding.

[4] Figures for Avondale, Buckeye, Goodyear and Litchfield Park reflect the entire community and do not distinguish between NWATS and SWATS.

5.14 Transportation Plans and Policies

As discussed above, transportation elements throughout the Northwest Valley have developed at varying paces. Automobile travel has been the favored mode, with transit being planned and implemented on a smaller scale. Bicycle and pedestrian access as a regional transportation option has been limited.

Recent planning efforts include all these elements, but the combination has been shifting toward a strategy of providing a multimodal transportation network. A review of the Circulation Element of General Plans throughout the Northwest Valley indicates that while roadway infrastructure will continue to be the most prevalent transportation feature, additional options will also be needed in the future.

General Plans provide comprehensive direction for growth, conservation, and redevelopment of all physical aspects of a city through goals, policies and recommendations. The Circulation element is a guide for the development of transportation policy. Current conditions and future prospects are addressed with plans for each locality's modal options.

All the General Plans reviewed establish the maintenance and expansion of arterial roadway capacity as a goal to serve the community. Specific recommendations vary from encouraging convenient arterial access (El Mirage), completion of the grid system (Surprise), increased capacity of major streets and freeways (Phoenix), and requiring donation of rights-of-way for major arterials (Buckeye). These objectives demonstrate that providing auto access is a critical element to transportation planning in the Northwest Valley.

The General Plans for Phoenix, Glendale, Surprise, and El Mirage also state recommendations to support alternative modes to automobile travel. Specific goals include:

- Expanding bus service, constructing high occupancy vehicle lanes, and building light rail transit (Phoenix);
- Providing options to travel by automobile (Glendale);
- Encouraging the use of transit and alternative modes of transportation (Surprise);
- Encouraging public transit opportunities and routes (El Mirage).

The General Plans of Phoenix, Peoria, Surprise, Wickenburg, and El Mirage include goals related to the development of bicycle or pedestrian facilities. These goals indicate a new objective of providing options to single-occupancy vehicular travel.

In addition to the stated objectives of the plan, policy support to help reduce or eliminate scalloped streets between adjacent communities is not visible. By the same token, there is little in each General Plan that relates to other policy needs (e.g., river crossings, transit service extensions, etc.) to improve the regional connectivity of each individual community's plans with adjacent cities. This is an area where a joint formulation of policy could help to manage growth to minimize impacts across city boundaries and within cities on undersized facilities.